DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING SERVICES
Office of Structural Materials
Quality Assurance and Source Inspection

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Contract #: 04-0120F4
Cty: SF/ALA Rte: 80 PM: 13.2/13.9
File #: 13.28

WELDING INSPECTION REPORT

Resident Engineer: Pursell, Gary
Address: 333 Burma Road
City: Oakland, CA 94607

Report No: WIR-010608
Date Inspected: 04-Dec-2009

Project Name: SAS Superstructure
Prime Contractor: American Bridge/Fluor Enterprises, a JV
Contractor: Oregon Iron Works Clackamas, Or.

OSM Arrival Time: 700
OSM Departure Time: 1530
Location: Clackamas, OR

CWI Name:	M. Gregson, J. Salazar			**CWI Present:**	☑ Yes	☐ No	
Inspected CWI report:	☐ Yes	☑ No	☐ N/A	**Rod Oven in Use:**	☐ Yes	☐ No	☑ N/A
Electrode to specification:	☑ Yes	☐ No	☐ N/A	**Weld Procedures Followed:**	☑ Yes	☐ No	☐ N/A
Qualified Welders:	☑ Yes	☐ No	☐ N/A	**Verified Joint Fit-up:**	☑ Yes	☐ No	☐ N/A
Approved Drawings:	☑ Yes	☐ No	☐ N/A	**Approved WPS:**	☑ Yes	☐ No	☐ N/A
				Delayed / Cancelled:	☐ Yes	☑ No	☐ N/A

Bridge No: 34-0006
Component: Hinge K Pipe Beams

Summary of Items Observed:

The Quality Assurance Inspector Sean Vance arrived on site at Oregon Iron Works, Inc (OIW) in Clackamas, OR, to randomly observe the in process welding of the Hinge K Pipe Beam assemblies. The QA Inspector arrived on site to randomly observe the OIW Quality Control (QC) Inspectors in process and completed visual and nondestructive testing. Upon the arrival of the QA Inspector the following observations were made:

Hinge-K Pipe Beam Assembly 102A-3: 12/4/09
a111-3 Forging to a110-3 Base Plate
QA Inspector noticed that the partial joint penetration and fillet welds, designated as weld joints #W1-01 thru W1-163, were previously completed and OIW production personell were in-process of performing weld clean-up, on the above mentioned stiffeners. QA Inspector spoke with QC Inspector Jose Salazar and Mr. Salazar explained that OIW welder # O6, Mr. Tim O'Brian was continuing to blend the weld start/stops, removing weld spatter and grinding all areas, which were previously marked by OIW QC Inspectors. Mr. Salazar explained that the visual clean-up that was being performed by Mr. O'Brian, was intermittently monitored by Mr. Salazar and areas that were previously marked up and completed, were then visually re-inspected, per AWS D1.5 and contract requirements. QA Inspector noted that the in-process visual testing by OIW QC Inspector Jose Salazar, appeared to be in compliance with AWS D1.5 and contract requirements.

AG Machining
Hinge-K Pipe Beam Fuse Assembly 120A-1: 12/4/09
a124-6 Half Fuse to a124-7 Half Fuse
QA Inspector arrived at AG at approximately 1000 hrs, on this date and noted that AG had previously completed

the final machining, on this fuse assembly 120A-1. QA Inspector spoke with AG machinist and AG explained that the final outside diameter was machined and finished to 1920.5mm. AG explained that OIW PM Bill Pender and OIW machinist had previously arrived in the a.m. and verified the outside diameter measurement and the surface finish profile. AG explained that OIW had recorded random profile readings of 32RA (.8um), on the exterior, finished machined surface, utilizing a profilometer. QA Inspector was not present or notified by OIW, to witness the profile check.

Note: AG explained that approximately 30+ visual indications were still present, at this time, on the exterior overlay, that will require weld repairs. QA Inspector noted that the visible indications were present during the first half of machining and approximately 15+ indications were concentrated into one area, as shown in picture below. AG explained that OIW had previously instructed AG to machine to the above mentioned tolerance and OIW will perform the weld repairs on the visible indications after the polishing is complete. QA Inspector noted that the repairs will be performed utilizing welding procedure specification (WPS 8022), GTAW process, in the flat position. QA Inspector noted that during the weld repairs at AG, OIW will have a QC Inspector present to verify in-process welding parameters/pre-heat temperatures and will perform in-process penetrate testing. QA Inspector will also be present to witness the weld repairs.

QA Inspector noted that these visible surface indications were similar in lengh/depths as the previous indications that were discovered at AG, during the final machining of fuse assembly 120A-2. The indications on 120A-2, previously appeared during the second machining cut pass (as in this case) and OIW performed the TIG weld repairs at AG. See attached pictures below.

Material, Equipment, and Labor Tracking

QA Inspector Sean Vance performed a verification of material, personnel and equipment involved with the project.

The QA Inspector observed at Oregon Iron Works: 2 OIW production personnel and 2 QC Inspectors.

The QA Inspector observed at AG Machine shop: 1 machinist and 1 supervisor.

The QA Inspector noted that no work was performed at OIW Vancouver paint shop.

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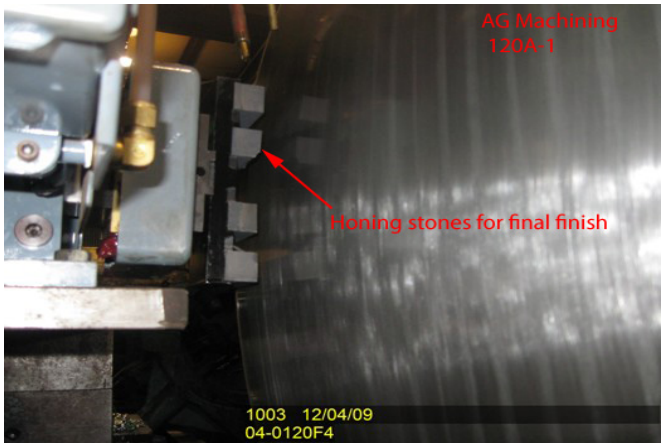

Summary of Conversations:

As noted above.

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Mohammad Fatemi (916) 813-3677, who represents the Office of Structural Materials for your project.

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Inspected By:	Vance,Sean	Quality Assurance Inspector
Reviewed By:	Adame,Joe	QA Reviewer